Common and Uncommon Treatments for PTSD

And a little about VR

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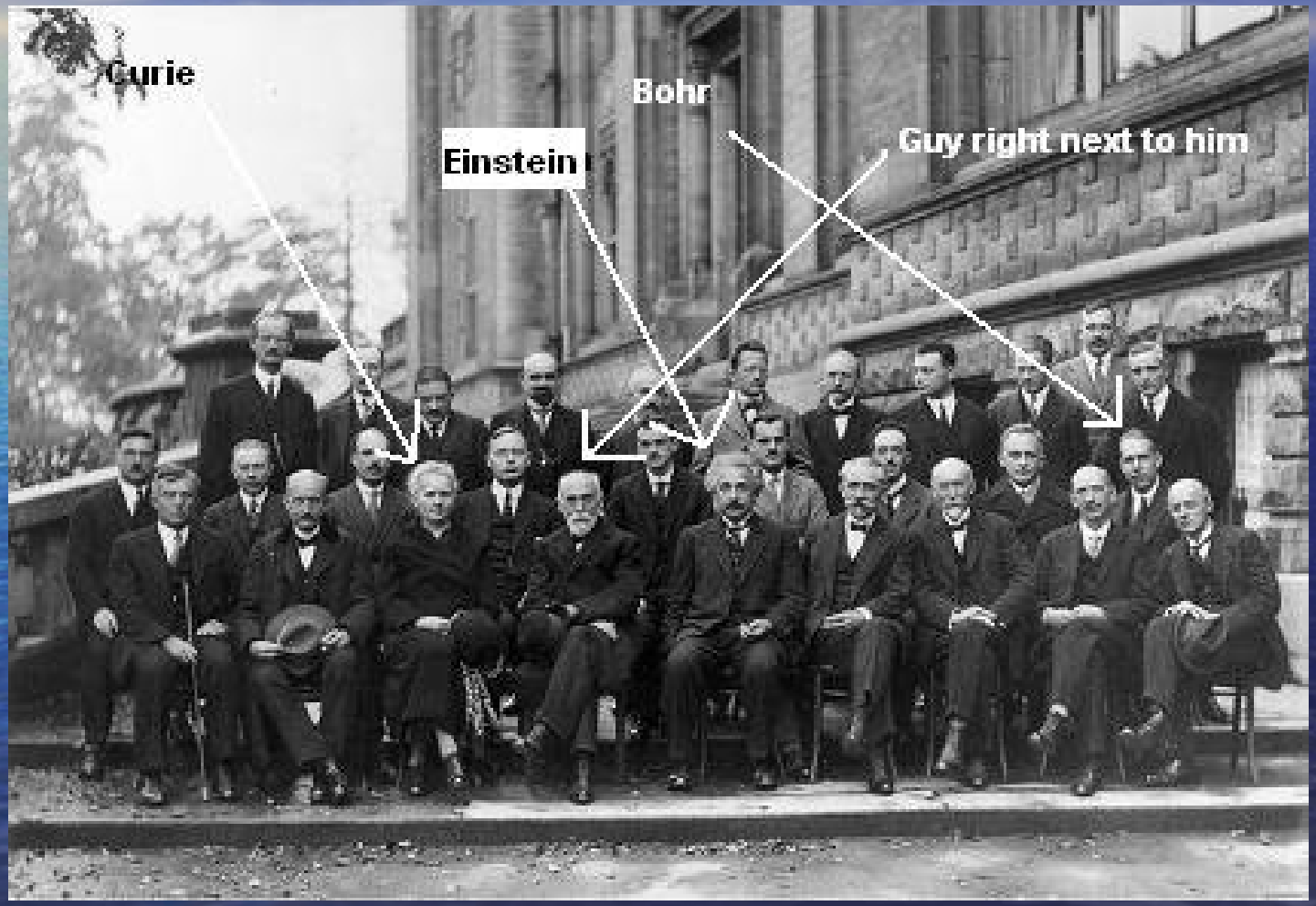
Disclaimers

- The opinions expressed are those of the author, not of the Navy, DoD, or any other government agency
- Off label uses of medications will be discussed in this presentations
- Portions of the work discussed in this talk were sponsored by the Office of Naval Research and by the Department of the Army

Problems in Treating PTSD

- Deciding what is PTSD
- Knowing what treatments to use
- Some ideas for what to use if standard treatment fails

A Great Gathering



Post Traumatic Stress Disorder is defined as

PTSD = Stress + 1 month +

RE-EXPERIENCING

AVOIDING

HYPER ARROSAL

All this assumes no hidden symptoms

Re-experiencing
1 symptom or more

- **1) recurrent and intrusive distressing recollections of the event**
- **2) recurrent distressing dreams of the event.**
- **3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated)**
- **4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.**
- **5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.**

Avoidance
3 or more symptoms

- **1. efforts to avoid thoughts, feelings, or conversations associated with the trauma**
- **2. efforts to avoid activities, places, or people that arouse recollections of the trauma**
- **3. inability to recall an important aspect of the trauma**
- **4. markedly diminished interest or participation in significant activities**
- **5. feeling of detachment or estrangement from others**
- **6. restricted range of affect (e.g., unable to have loving feelings)**
- **7. sense of foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)**

Increased Arousal
2 or more symptoms

- (1) difficulty falling or staying asleep
- 2) irritability or outbursts of anger
- 3) difficulty concentrating
- 4) hypervigilance
- 5) exaggerated startle response

And According to DSM-V proposed revisions

Negative alterations in <u>cognitions and mood</u> that are associated with the traumatic event(s) (that began or worsened after the traumatic event(s)), as evidenced by 3 or more of the following:

- Persistent and exaggerated negative expectations about one's self, others, or the world (e.g., "I am bad," "no one can be trusted," "I've lost my soul forever," "my whole nervous system is permanently ruined," "the world is completely dangerous").
- Persistent distorted blame of self or others about the cause or consequences of the traumatic event(s)
- Pervasive negative emotional state -- for example: fear, horror, anger, guilt, or shame
- Markedly diminished interest or participation in significant activities.
- Feeling of detachment or estrangement from others.
- Persistent inability to experience positive emotions (e.g., unable to have loving feelings, psychic numbing)
- Inability to remember an important aspect of the traumatic event(s) (typically dissociative amnesia; not due to head injury, alcohol, or drugs).

Ah but there is A problem

A. The person has been exposed to a traumatic event in which both of the following were present:

1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others

2) the person's response involved intense fear, helplessness, or horror

The wandering A criteria

- DSM III - "recognizable stressor that would evoke significant symptoms of distress in almost anyone.”
- DSM III-R "... outside the range of normal experience”
- ICD 10 – No mention of fear helpless or horror
- DSM IV-TR specifically says that the same sx attributable to a lesser stress should be dx as Adjustment Disorder

And DSM–V comes up again

The person was exposed to the following event(s): death or threatened death, actual or threatened serious injury, or actual or threatened sexual violation, in one or more of the following ways:

- Experiencing the event(s) him/herself
- Witnessing the event(s) as they occurred to others
- Learning that the event(s) occurred to a close relative or close friend
- Experiencing repeated or extreme exposure to aversive details of the event(s) (e.g., first responders collecting body parts; police officers repeatedly exposed to details of child abuse)

NOTE: *Witnessing* or *exposure to aversive details* does not include events that are witnessed only in electronic media, television, movies or pictures, unless this is part of a person's vocational role. Exposure to aversive details of death applies only to unnatural death.

PTSD is the ONLY diagnosis in DSM that requires a specific etiology.

- ICD 10 also includes “Personality Change Due to Traumatic Stress”
- PTSD is marked by high rates of comorbidity; some studies indicate that more than 80% of people who have a diagnosis of PTSD also have major depressive or another psychiatric disorder (Black et al. 2004; Kessler et al. 1995).
- In combat vets, it is sometimes hard to nail down the specific stress that causes PTSD

Lots of strange things happen on deployment

Some may not seem dangerous at the time

Some things may stress you out that would not stress out another person

	Army Groups		Marine Group
	Afghanistan (N=1,962)	Iraq (N=894)	Iraq (N=815)
Being attacked or ambushed	58%	89%	95%
Receiving incoming artillery, rocket, or mortar fire	84	86	92
Being shot at or receiving small-arms fire	66	93	97
Shooting or directing fire at the enemy	27	77	87
Being responsible for the death of an enemy combatant	12	48	65
Being responsible for the death of a noncombatant	1	14	28
Seeing dead bodies or human remains	39	95	94
Handling or uncovering human remains	12	50	57
Seeing dead or seriously injured Americans	30	65	75
Knowing someone seriously injured or killed	43	86	87
Participating in demining operations	16	38	34

Then There is the Issue of Time

JULY 30, 2007
Kids Who Beat Cancer
How new treatments keep them healthy when they grow up
The End of Easy Money: How Rates Will Squeeze You
Call Me Madam: Why Travolta Isn't A Drag
TIME
IRAQ
What will happen when we leave
BY MICHAEL DUFFY
www.time.com

Symptom duration, and when did symptoms start (ICD issue)

Audience Poll

- Can you have PTSD if you are still under the same combat stress that caused symptoms?
- What if symptoms are from another deployment?
- If acute cause of symptom awakening is a
  “less severe stress”

Case Example

- 37 yo HM1, brought up in Nicaragua, where he was subject to bombing during the revolution, deployed two times to Iraq in the past. Always had panic attacks. After first deployment started avoiding war experiences. After second deployment, starting having flashbacks. Was treated and recovered. Now had recurrence of panic attacks, anger, flashbacks, avoidance, cutting, and depression in context of not getting along with his direct supervisor. Sx now < 1 wk.

Why Does it matter

- Iatrogenic Diagnosis
- Treatment guidelines – e.g. diagnosis is supposed to lead treatment
- Trauma focused therapy
- $$ per dx

This slide doesn’t really fit with anything, but that’s kind of the point

Treatment Guidelines

- **VA/DoD**
- **IOM**
- **ISTSS**
- **APA**
- **NICE**

Of course, none of them agree

Institute of Medicine

- **Insufficient evidence that combat PTSD is similar or different from non-combat PTSD**
- **“The committee finds that the evidence is sufficient to conclude the efficacy of exposure therapies in the treatment of PTSD”**
- **Insufficient evidence for EMDR, cognitive restructuring, coping skills training, or any medication.**

American Psychiatric Association

- SSRI's are first line meds
- CBT, EMDR, Stress Inoculation, Imagery Rehearsal, Prolonged Exposure, and Psychodynamic therapy recommended.
- Avoid Debriefing. Avoid Desipramine.
- Tricyclics, MAOIs, anticonvulsants, adrenergic inhibitors 2nd line. Antipsychotics and Benzos with caution.

National Institutes for Clinical Excellence

- Do NOT do CISD
- Do NOT use most meds (benzos, antipsychotics)
- Do NOT use any medication as first line treatment
- Exposure Therapy or EMDR should be first line
- Exposure Therapy should be used in most severe cases, and patients should be discouraged from non-trauma-focused therapy.
- SSRI, mirtazapine, amitriptyline or phenelzine in combo, or when trauma focused therapy not feasible
- Treat PTSD along with addiction, and before grief

International Society for Traumatic Stress Studies

- Individual Therapy is Preferable to Group
- Psychotherapy Alone or In Combo With Meds first line (never meds alone first)
- Treatment should be AT LEAST once a week, and twice a week may be useful
- First line therapy should be prolonged exposure, anxiety management, cognitive therapy, or psychoeducation
- Exposure Therapy, and CT have most evidence
- For meds, SSRI, venlafaxine, nefazodone, & trazodone (for sleep) first line
- 2nd line meds – tricyclics, mood stabilizers, MAO-I, benzos for co-morbid Panic Disorder, Buspar for co-morbid GAD

VA/DoD Guidelines

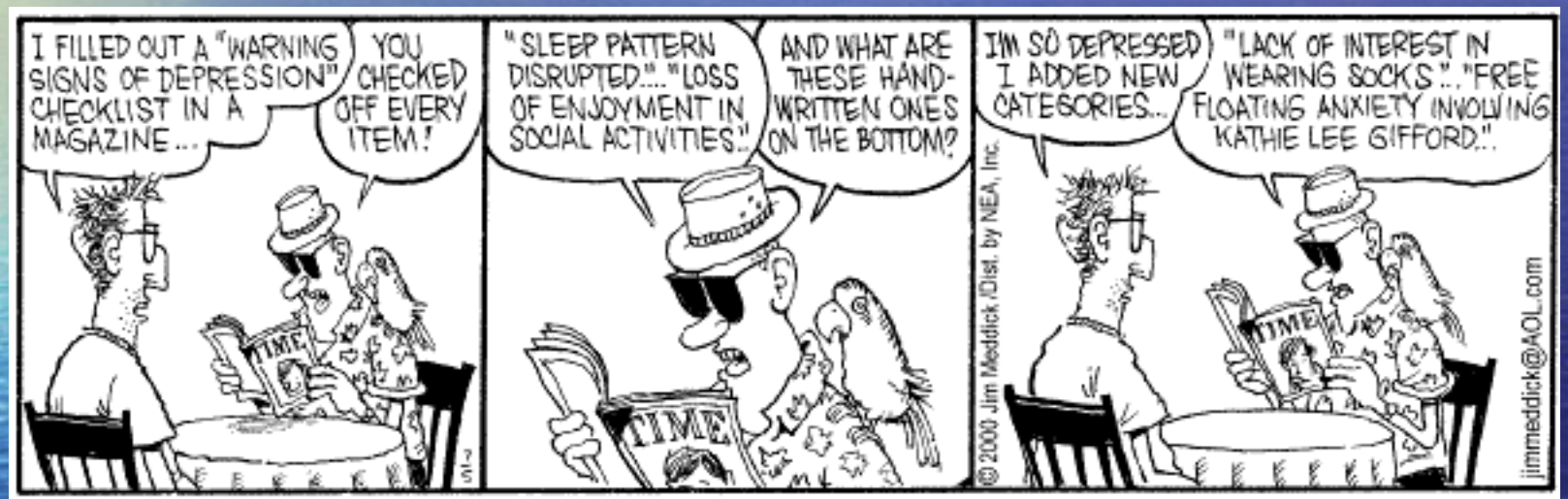
SSRI 1st line; Other antidepressants, A*/B-blocker, 2nd line; anticonvulsants, atypical antipsychotics, buspar, non-benzo hypnotics 3rd (Unknown benefit)

- Avoid Benzos, typical antipsychotics
- CT, Exposure Therapy, Stress Inoculation, EMDR 1st; Psychodynamic, Imagery Rehearsal, Education 2nd
- Other therapy prn for co-morbid conditions
- Supportive therapy is not effective for PTSD

What does everyone agree on?

- Prolonged Exposure Therapy
- If a med is useful, that med is likely an SSRI
- Frequent, individual therapy needs to be part of the treatment process
- Consider co-morbidity
- Be very careful with or avoid debriefing, benzos, and antipsychotics
- and

Look for Comorbidities and tr


I FILLED OUT A "WARNING SIGNS OF DEPRESSION" CHECKLIST IN A MAGAZINE...
YOU CHECKED OFF EVERY ITEM!
"SLEEP PATTERN DISRUPTED"... "LOSS OF ENJOYMENT IN SOCIAL ACTIVITIES"...
AND WHAT ARE THESE HAND-WRITTEN ONES ON THE BOTTOM?
I'M SO DEPRESSED I ADDED NEW CATEGORIES...
"LACK OF INTEREST IN WEARING SOCKS"... "FREE FLOATING ANXIETY INVOLVING KATHIE LEE GIFFORD"...
TIME
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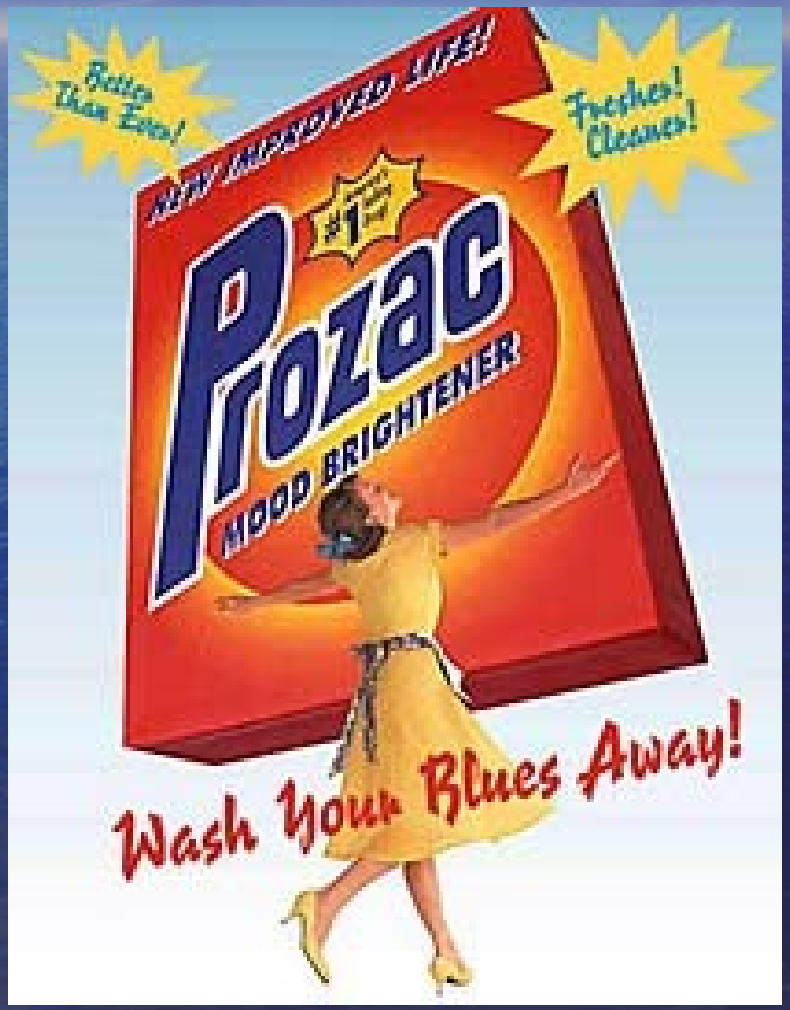
Safety First

Meds


Better Than Ever!
Freshes! Cleanses!
#1
Prozac
MOOD BRIGHTENER
Wash Your Blues Away!

SSRIs

- Paroxetine * – Paxil - Sedating
- Sertraline * - Zoloft - Well studied, low P450
- Fluoxetine – Prozac - Cheep, well studied
- Citalopram - Celexa - low p450, neutral
- Escitalopram- Lexipro, as above but $
- Fluvoxamine - Luvox

- SSRIs average a 5.76 point improvement on the CAPS

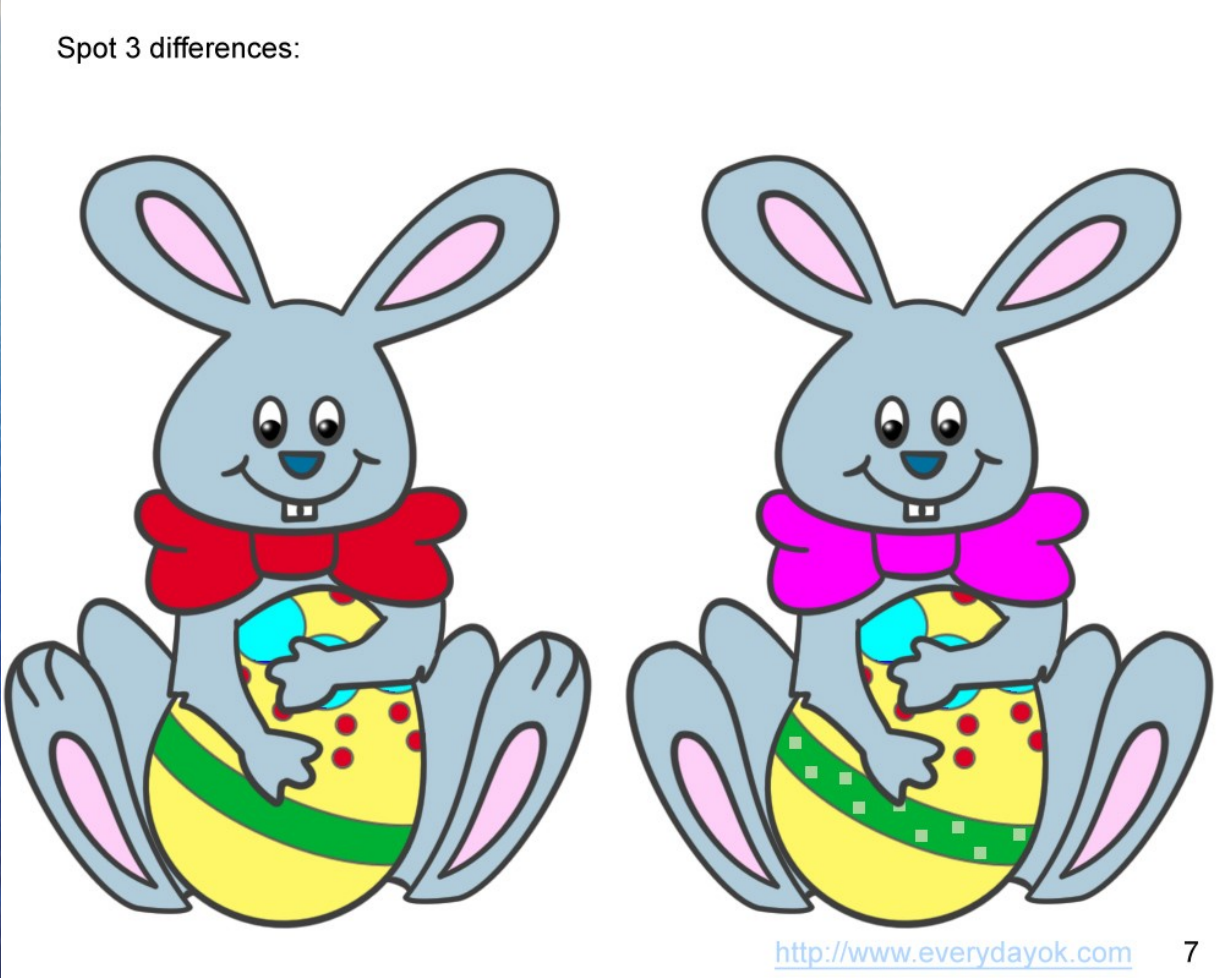
How to use an SSRI for PTSD

- Pick an SSRI (they are all equally effective)
- Look up the starting dose
- Start at 1/2
- Check back in a week (ask about SI)
- If doing OK double it, if not cut or maintain
- Anticipate tx for min of 4-6 wks before seeing results
- Usually 2x starting dose before remission
- **Treat for 6-12 months after remission**

Other helpful meds

- Trazodone 50-100mg qHS for sleep.
- Ambien 5-10mg qhs IF RELAXATION FAILS (watch for comorbid ETOH use)
- Prazosin 1mg to start up to 10mg max (watch for orthostasis, and rebound HTN)
- Remeron 15mg QHS (watch for weight gain)
- B-blockers (data has been very mixed)
- ATYPICAL ANTIPSYCHOTICS AND BENZOS MAY BE HELPFUL, BUT PLEASE DON'T USE THEM UNLESS YOU REALLY KNOW WHAT YOU ARE DOING

Problem with classifying therapy as “evidence based”



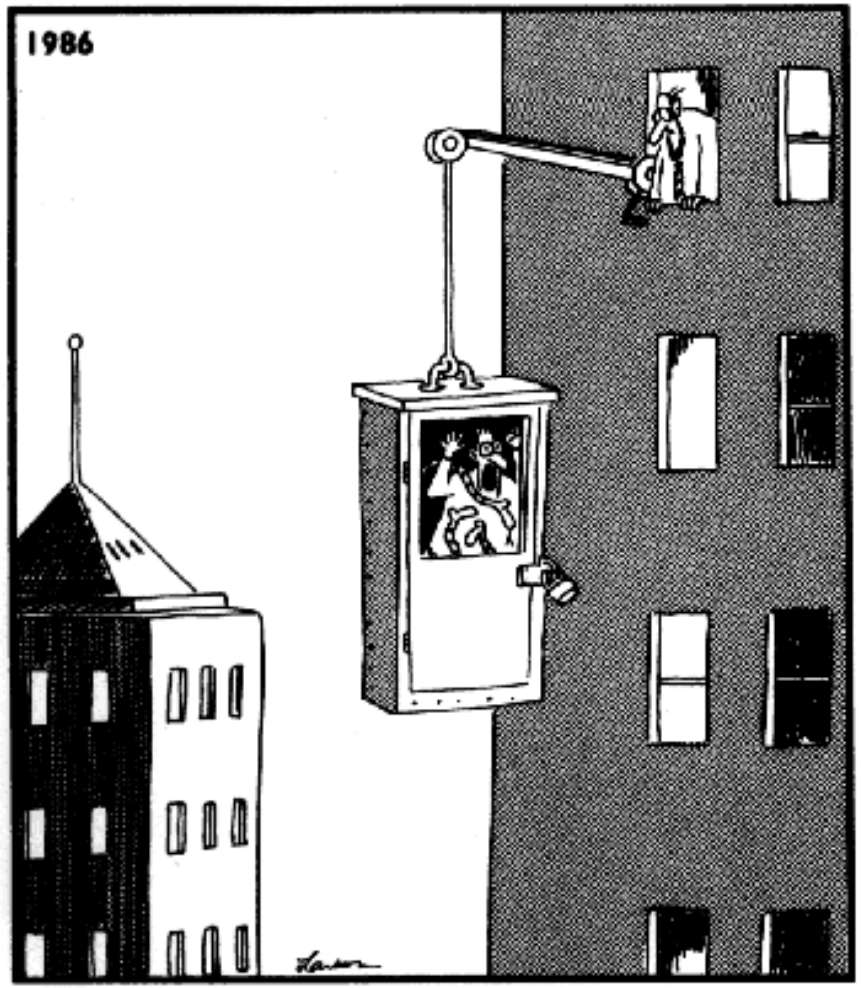
EXPOSURE THERAPY

Hard on the patient. Not all that hard to do.

Prolonged Exposure (Foa et al) is the most studied form

May include SIT, progressive desensitization and others

How It's Done



Professor Gallagher and his controversial technique of simultaneously confronting the fear of heights, snakes, and the dark.

Really See:
Prolonged Exposure Therapy for PTSD
By Foa, Hembree, and Rothbaum

Anticipate 1-2 times a week for 8-12 sessions

Cognitive Therapy

- Should be “Trauma Focused”
- CPT is probably the most widely known form
- May help with a number of co-morbidities
- Most psychologists know how to do this

EMDR

- Was originally considered one of the “power therapies” (i.e. quack quack)
- Some now think of it as an exposure therapy
- Violates principals of PE
- Seems to work anyway
- Copyright
- The evidence does not support the idea that you have to do it their way

Psychodynamic/Insight Oriented

- You can’t do the other therapy if the person doesn’t come back to the office
- Patients can do this for a long time without improving

Other, studied therapies

- Couples Therapy
- Interpersonal Therapy
- Behavioral Activation
- Trauma Management Therapy
- Mindfulness training
- Imagery Re-scripting
- Yoga and Acupuncture
- Imagery Rehearsal Therapy
- Attention re-training

Other, unstudied therapies

- DBT
- Power Therapies (e.g. Thought Field Therapy)
- Acceptance and Commitment Therapy
- Trauma Incident Reduction
- Psychodynamic
- Many Many More

Venturing Into the Unknown or what to do if your first-line treatment didn’t work

Meds tried as add-on options

- Olanzapine, risperidone, quetiapine
- Disulfiram, naltrexone
- Buproprion
- Cycloserine (50mg prior to therapy)
- Propranolol (60mg with therapy)
- Ketamine
- Methylendiaxymethamphetamine (MDDA, or Ecstasy, and no you can’t get this)

Virtual Really as a modification to exposure therapy

– *Problems with Imaginal Exposure*

Many patients are unwilling or unable to effectively visualize the traumatic event. In fact, avoidance of reminders of the trauma is inherent in PTSD, and is one of the defining symptoms of the disorder. Research on this aspect of PTSD treatment suggests that the inability to emotionally engage (*in imagination*) is a predictor for negative treatment outcomes (Jaycox, Foa, & Morral, 1998).

"…some patients refuse to engage in the treatment, and others, though they express willingness, are unable to engage their emotions or senses." (Difede & Hoffman, 2002).

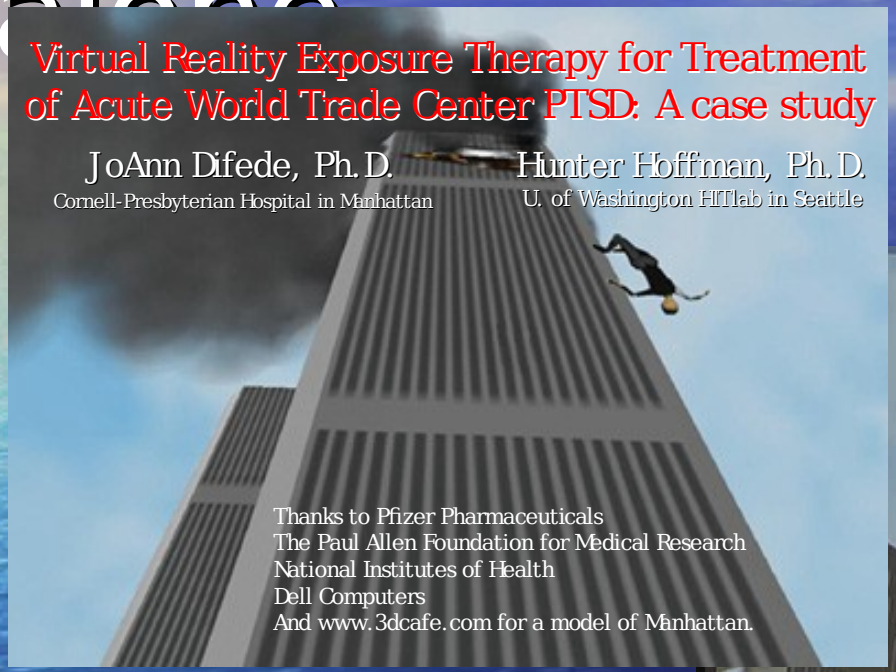
Virtual Vietnam

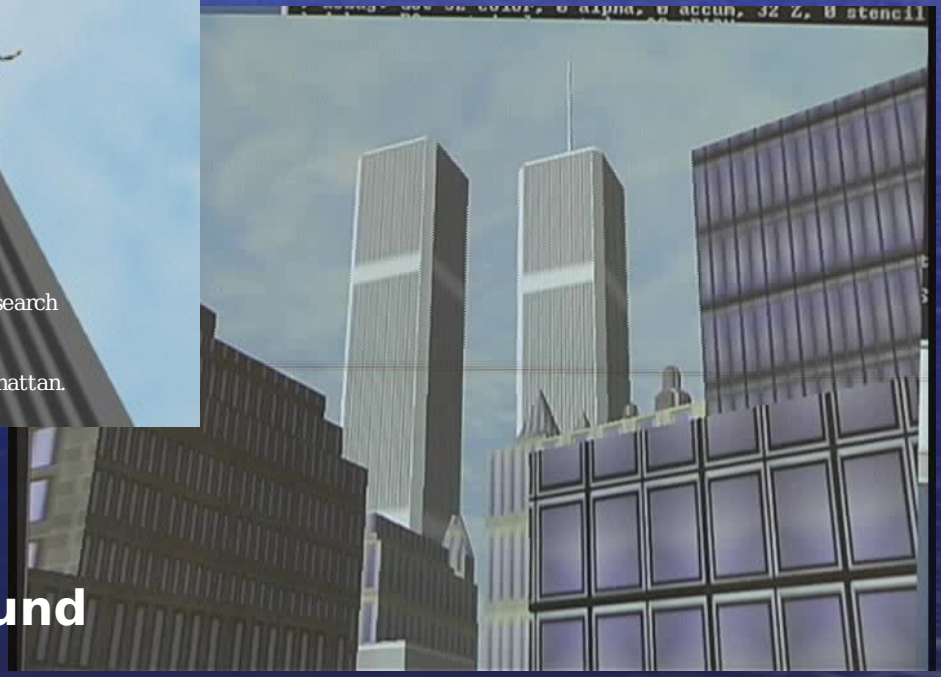
Hodges, Rothbaum et al.

In 1997, researchers at Georgia Tech released the first version of the Virtual Vietnam VR scenario for use as a *graduated exposure* therapy treatment for PTSD with Vietnam veterans.

All 8 participants interviewed at the 6-month follow-up reported reductions in PTSD symptoms ranging from 15% to 67%.

? Better than Exposure alone


Virtual Reality Exposure Therapy for Treatment of Acute World Trade Center PTSD: A case study
JoAnn Difede, Ph.D.
Cornell-Presbyterian Hospital in Manhattan
Hunter Hoffman, Ph.D.
U. of Washington HITlab in Seattle
Thanks to Pfizer Pharmaceuticals
The Paul Allen Foundation for Medical Research
National Institutes of Health
Dell Computers
And www.3dcafe.com for a model of Manhattan.

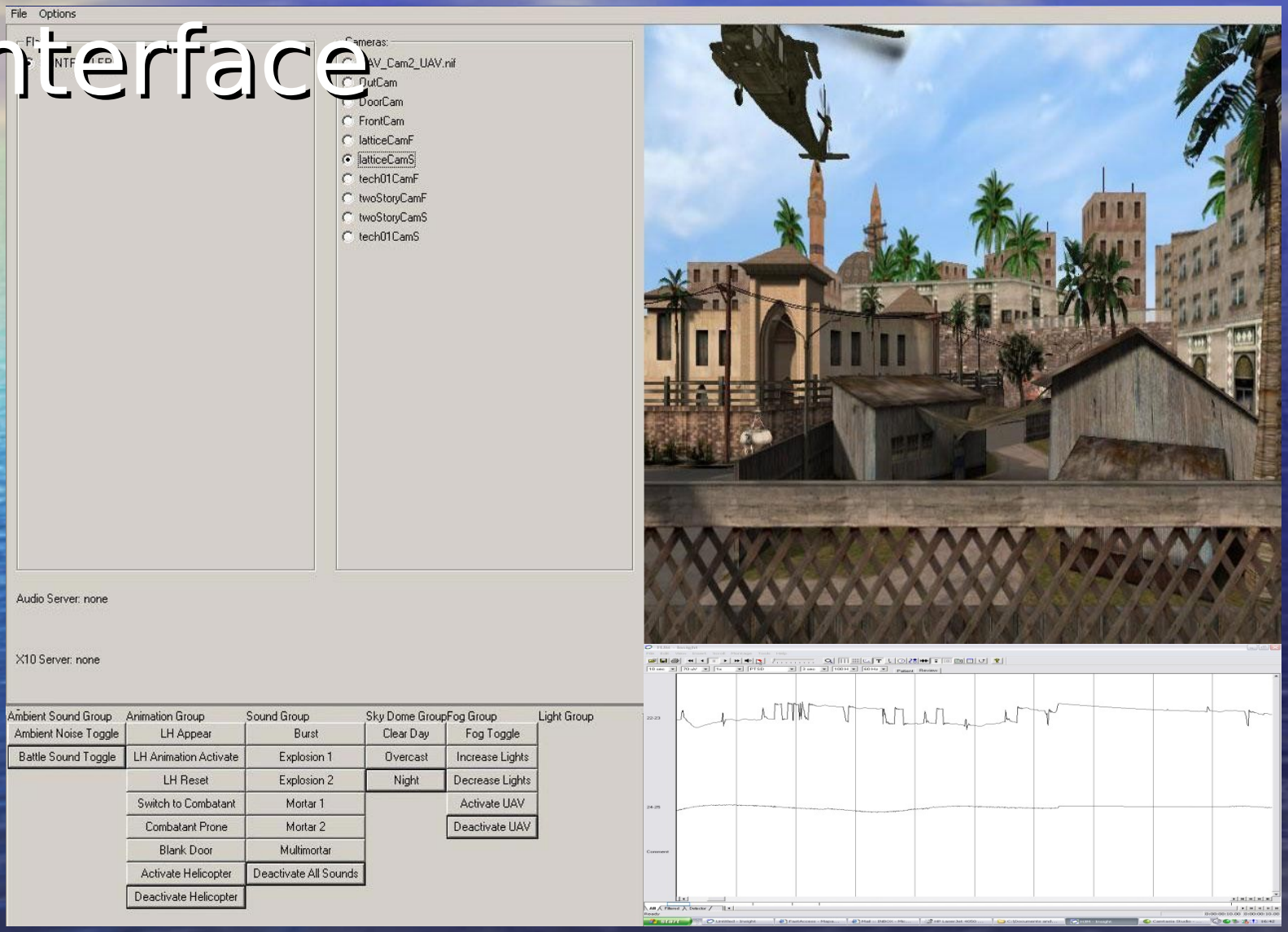


Some patients who failed Imaginal therapy were found To be helped by VR

How its done

Can you guess you this is?

“Wizard of OZ” Clinician Interface



Virtual Reality assisted Exposure Therapy

- Also called VRET, VRPE, VRE
- In practice quite similar to traditional, Prolonged Exposure Therapy, e.g. Foa, or “fear will burn itself out”
- This is what was done by Rothbaum in Virtual Vietnam, and Difede in Virtual 9/11
- Fast and Active (not quite flooding)

VRET

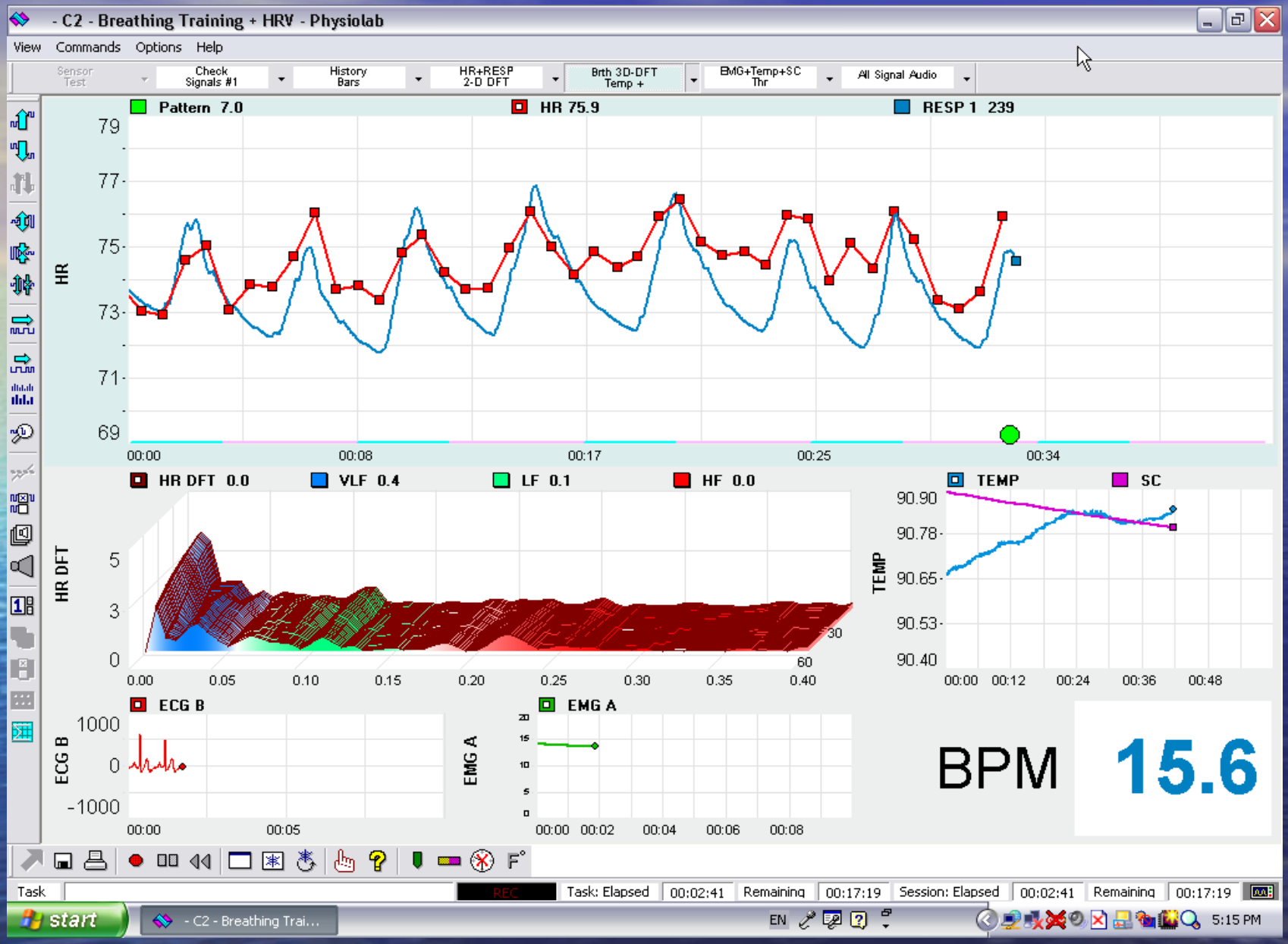
- Session 1: Intro, Trauma interview, education
- S2: Patient tells his/her story as if it is happening again now, and sets homework to face real-world experiences that cause anxiety. Sessions are recorded and listened to between sessions
- S3: Patient Explores the VR for matching cues
- S4 and on, patient tells his/her story while therapist tries to illustrate this with VR
- S5-15- Lather, rinse, repeat, with increasing intensity of story and VR
- Typically twice a week for 10-15 sessions

Virtual Reality Exposure with Arousal Control (VRE-AC)

- AKA Virtual Reality Graded Exposure Therapy (VRET)
- Based in Graded Exposure Principals (e.g. Jacobsen (1938)
- Grows out of what has been done with VR for phobias prior to PTSD, (Wiederholds)
- Uses biofeedback and arousal control as essential components
- Slow and relaxing (not quite Graded Exposure)

VRE-AC

- Session 1: Orientation and introduction to meditation and biofeedback
- S2: Meditation instruction and test with stress
- S3-6: VR Graded Exposure (minimal talking)
- S7-20: Increase Arousal - via VR and verbal interaction
- Typically once a week for 10-20 weeks.


- C2 - Breathing Training + HRV - Physiolab
View
Commands
Options
Help
Sensor Test
Check Signals #1
History Bars
HR+RESP 2-D DFT
Brth 3D-DFT Temp +
EMG+Temp+SC Thr
All Signal Audio
Pattern 7.0
HR 75.9
RESP 1 239
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-1000
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EMG A
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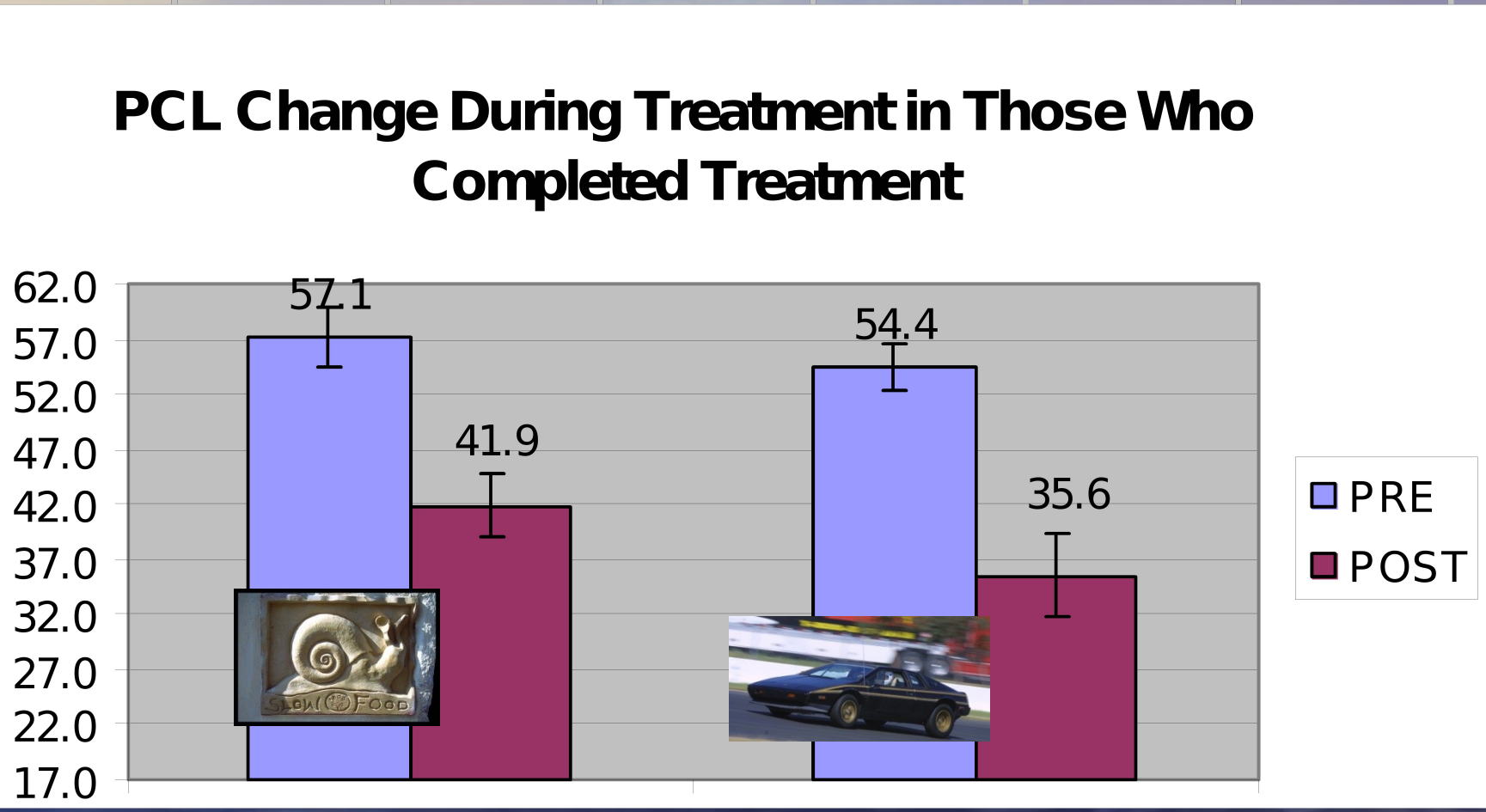
00:02
00:04
00:06
00:08
BPM
15.6
Task
REC
Task: Elapsed
00:02:41
Remaining
00:17:19
Session: Elapsed
00:02:41
Remaining
00:17:19
start
- C2 - Breathing Trai...
EN
5:15 PM

Results of Open Trials (34 patients)



What about Everything Else?

MY PROJECT IS IN A FLAMING DEATH SPIRAL, THANKS TO YOU LAZY, SELFISH WEASELS.
www.dilbert.com scottadams@aol.com
BUT I'M FEELING TERRIFIC BECAUSE I'M TAKING MOOD-ALTERING PRESCRIP-TION DRUGS!
2/6/03 © 2003 United Feature Syndicate, Inc.
I CAN SEE BY YOUR EXPRESSIONS THAT MY DOCTOR IS MUCH BETTER THAN YOURS!
HOO-WAH!

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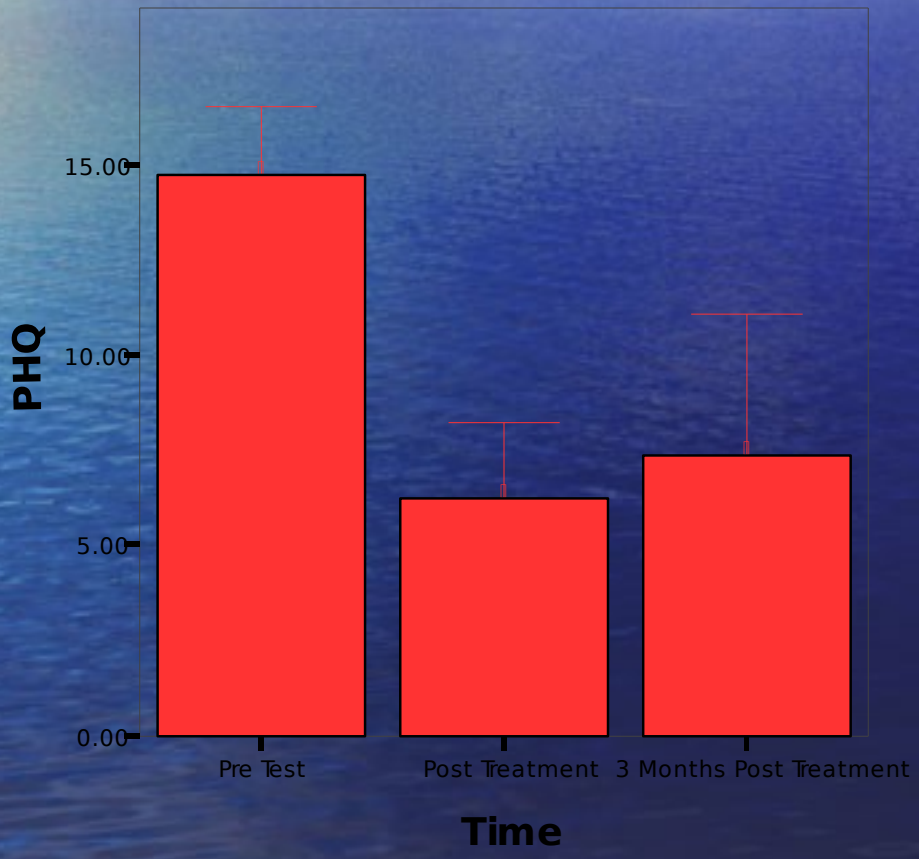
Depression Scores

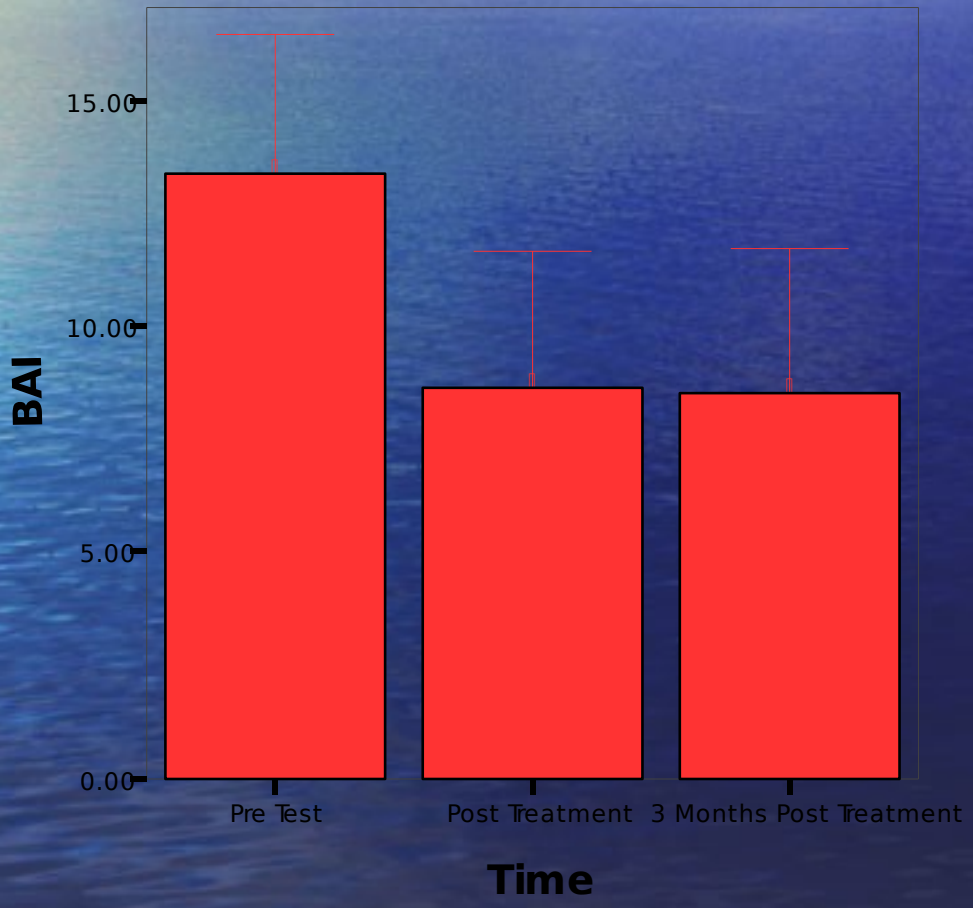


Error Bars show Mean +/- 1.0 SE

Bars show Means

P < 0.01

Anxiety Scores



Error Bars show Mean +/- 1.0 SE

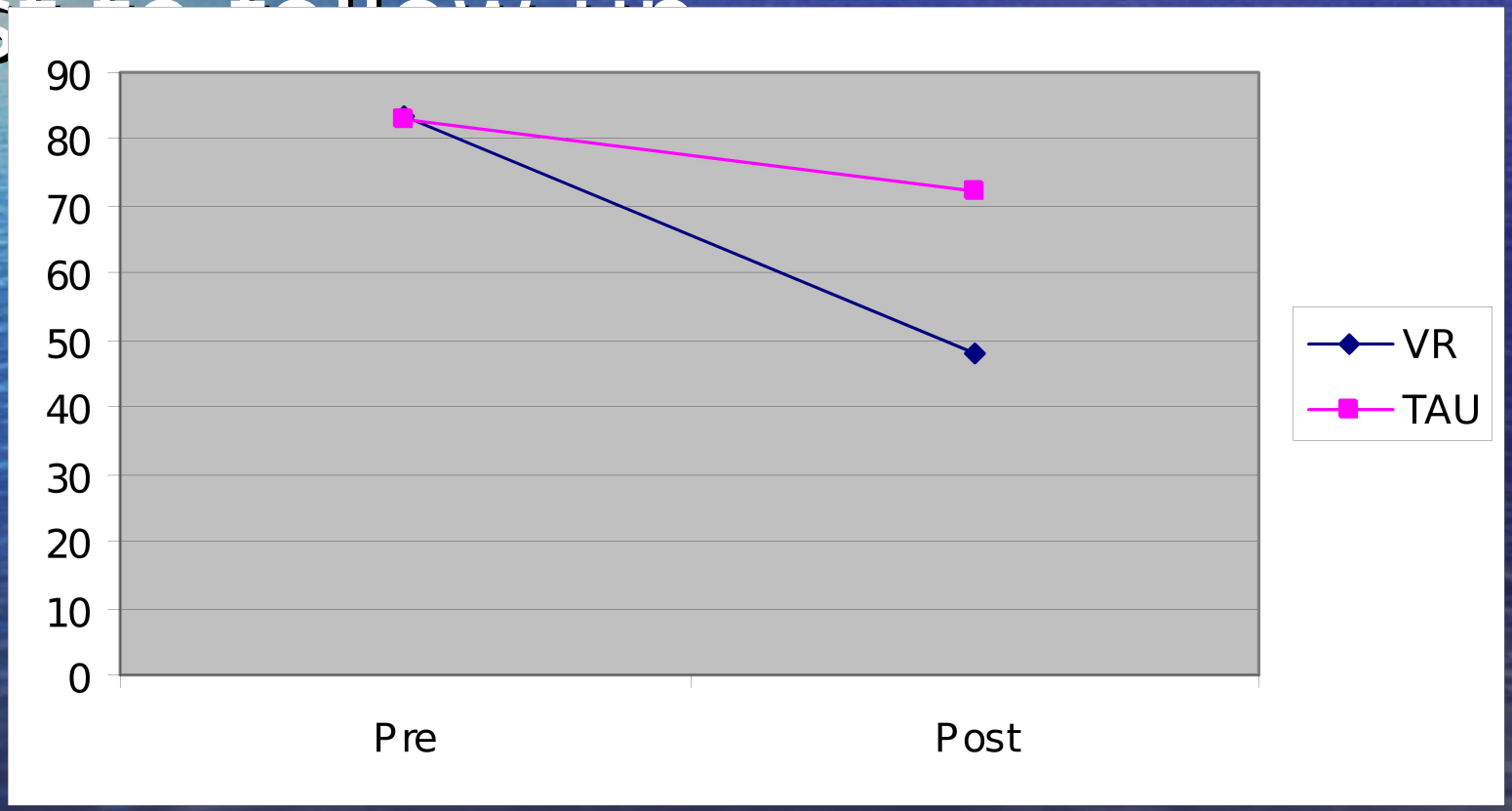
Bars show Means

VR versus Treatment as Usual

10 patients in VR vs 10 in TAU

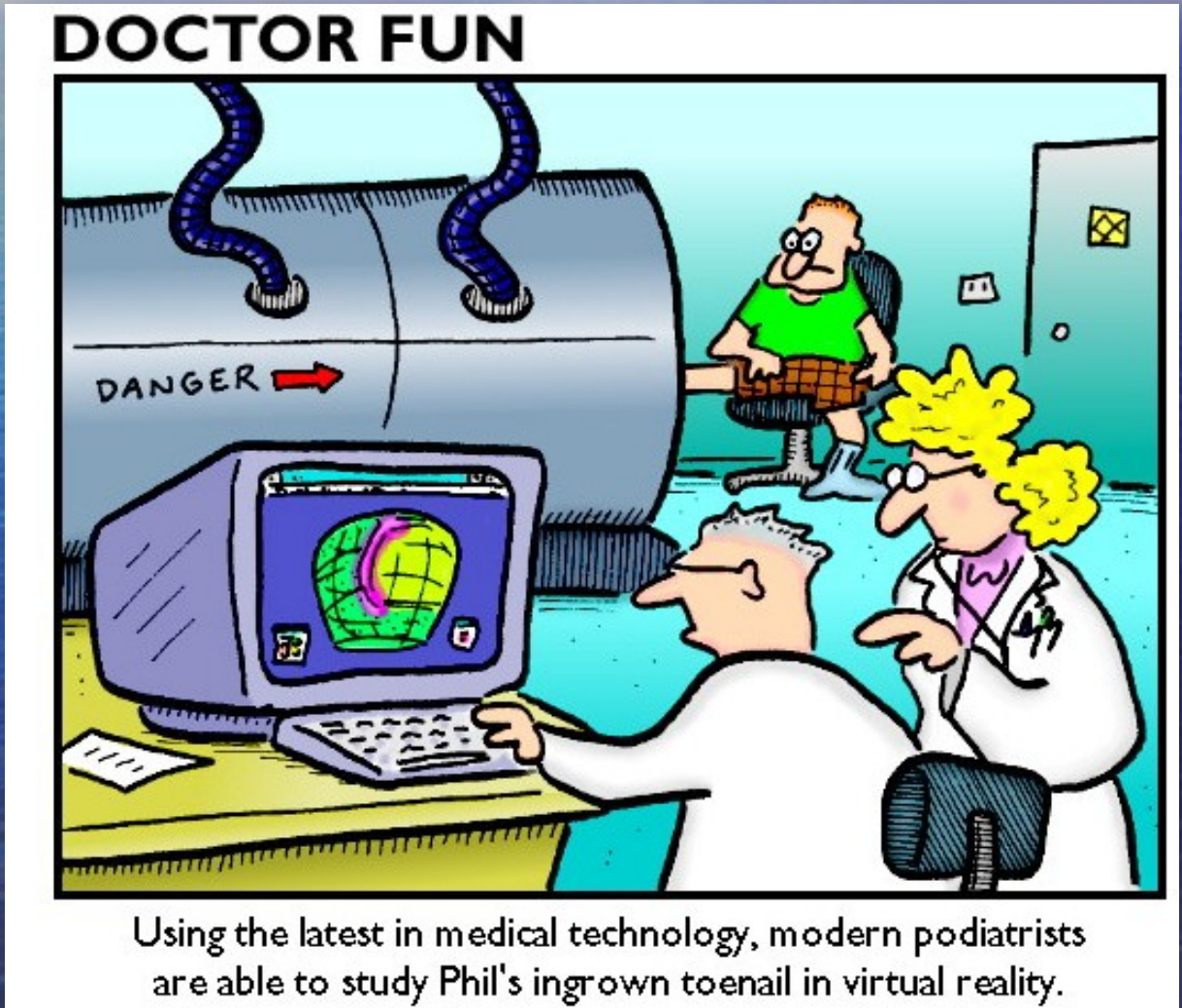
	Mean	Range	Mean	Range
n	10	NA	10	NA
Age	28	22-43	28.8	21-45
Male gender	90%	NA	100%	NA
Navy	60%	NA	30%	NA
Enlisted	100%	NA	90%	NA
Failed previous treatment	80%	NA	90%	NA
On Meds	90%	NA	90%	NA
Prior Deployments	3.3	1-8	1.44	1-3
#Mental Health Sessions (not				

After 10 weeks 7 of 10 VR patients are better, 1 of 9 TAU pts are better and 1 TAU pt is lost to follow up



Not even close

But this doesn’t mean that VR was the important part


DOCTOR FUN
DANGER
Using the latest in medical technology, modern podiatrists are able to study Phil's ingrown toenail in virtual reality.

Treatment at the Front
(aka there is no evidence based medicine in foxholes)

we are all wizards out here

Quiz 2

What was the first US conflict in which BICEPS/PIES principals were initiated at the BEGINNING of the war?

Vietnam

Lowest psychiatric to physical casualty rate of any US war

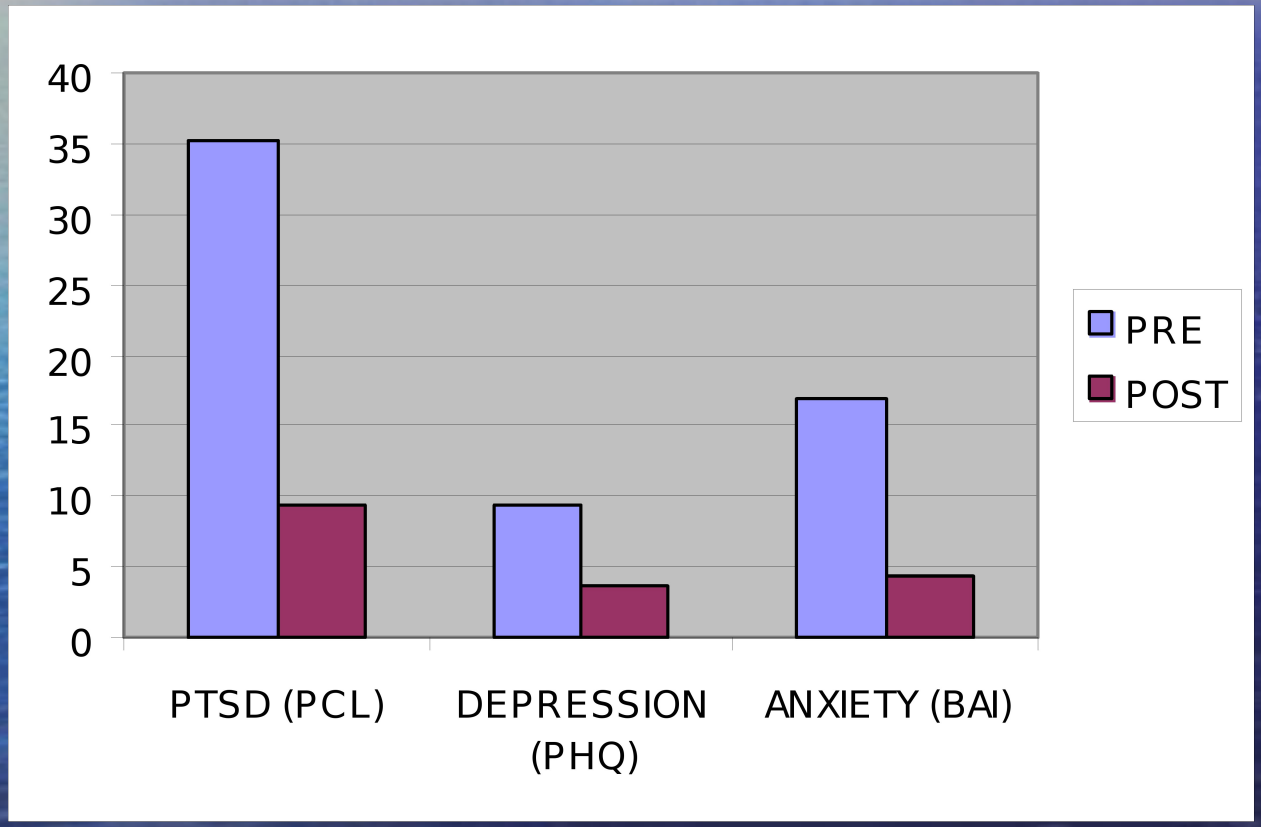
Lesion: we are still not as smart as we think we are

Personal Experience is Lazy Science, but here it is anyway

PTSD is a small % of what I've seen

- 175+ patients; 900+ visits
- 13 PTSD Psychotherapy cases, 11 involving combat
- 9 Additional Medication Cases
- All but one who stayed in therapy reached remission, and he never identified trauma as source of his problems

First 7 Cases



Case 1

- 26 yo MWM, AD SGT in USMC started therapy in 6th month of 7 month combat deployment, his 2nd overall. Pt had combat PTSD from first combat deployment. Has been on Zoloft and Ativan for over a year, and has been in individual, non trauma focused therapy. Intake PCL-M = 44; BAI 12; PHQ 12

Changes

- Increased Zoloft from 100mg to 200mg
- Tapered off Ativan
- Added Prazosin 1mg TID
- Pt in exposure therapy twice a week, and med check qwk. 11 sessions in 3 wks

Result

- PCL 26; BAI 9;   PHQ = 6 (66% reduction in PTSD sx, no longer having any sx at moderate or greater)

Patient 2

- 28 yo SWM, AD, USA SGT, medic, with 8 yrs CAD, on month 7 of 9 for his 2th combat deployment, with 2 other deployments that involved traumatic events (suicide and accidental death), and multiple combat exposures. Prev dx with PTSD by VA, but cleared to deploy despite 70% disability for this and, L2 compression fx, and Asthma. PCLM score of 46; PCL (depression) score of 10 with only 4/9 sx half day or >. BAI score 15

Treatment and response

- Started Celexa 20mg daily.
- 4 Sessions of PE (two of the VR assisted)
- No clear index trauma
- Could not tolerate Celexa due to GI side effects
- PCL 23 (from 46); PHQ 3 (from 10); BAI 4 (from 15)
- Response sustained 1 month after returning to US

Failed Case

- 22 yo Separated Asian Male, an AD E3 in the USMC with 3 yrs CAD, started tx in month 2 of 7 of his 2nd combat deployment. He presented complaining of strange dreams, and appears to have symptoms of PTSD although he was reticent to admit that he had any problems. He was previously dx PTSD and Alcohol Dependence and given Zoloft for > 2 years. Would not will fill out checklist at first session, but on 3rd PCL-M 34; PHQ =7; BAI = 0

Treatment and response

- Scheduled for weekly therapy, but only showed up about half the time.
- Trials with me and with psychologist (only showed up to her for 1 session)
- Insight oriented approach
- Trial of Prazosin. Saw improvement, but self d/c'd (**Problem area**)
- Switched to Effexor from Zoloft
- 14 sessions over 4 months
- Exit - PCL 44; PHQ 5; BAI 1

Other tidbits

- Had session interrupted by mass casualty – Pt did fine
- Had two patients with new trauma in middle of treatment – did fine or improved
- Had patient who only had two weeks for therapy (pt showed minimal improvement, but no worsening)

In general, facing up to one's fear turned out well

I have no idea who this is, but he suggests that you

Wake up now